# **WEST Search History**

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Hide Items	Restore	Clear	Cancel

DATE: Tuesday, January 22, 2008

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	DB=PC	GPB,USPT,USOC,EPAB,JPAB,DWPI; PLUR=YES; OP=AI	OJ
	L9	(glycan\$2 or N-glycan\$2) same L6	23
	L8	(glycan\$2 or N-glycan\$2) and L6	55
	L7	(glycanes or N-glycanes) and L6	2
	L6	oligosaccharide same L4	255
	L5	(glycanes or N-glycanes) and L4	2
	L4	(organism or prokaryot\$3) same L1	569
	L3	(glycanes or N-glycanes) and L1	4
	L2	(glycanes or N-glycanes) same L1	2
	L1	(glycosyltransferase or (oligosacchar\$3 with transferase))	4297

END OF SEARCH HISTORY

=> index bioscience medicine

INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, ANTE, AQUALINE, AQUASCI, BIOENG, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA, CAPLUS, CEABA-VTB, CIN, CONFSCI, CROPB, CROPU, DDFB, DDFU, DGENE, DISSABS, DRUGB, DRUGMONOG2, DRUGU, EMBAL, EMBASE, ...' ENTERED AT 10:39:22 ON 22 JAN 2008

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72 FILES IN THE FILE LIST IN STNINDEX
=> S (glycosyltransferase or (oligosacchar? (w) transferase))
   138 FILE ADISINSIGHT
   279 FILE AGRICOLA
    26 FILE ANABSTR
    4 FILE ANTE
    25 FILE AQUASCI
   364 FILE BIOENG
   3069 FILE BIOSIS
   756 FILE BIOTECHABS
   756 FILE BIOTECHDS
   2490 FILE BIOTECHNO
   320 FILE CABA
   4946 FILE CAPLUS
   123 FILE CEABA-VTB
    14 FILE CIN
    46 FILE CONFSCI
    3 FILE CROPU
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- 123 FILE DDFB
- 53 FILE DDFU
- 4584 FILE DGENE
- 148 FILE DISSABS
- 123 FILE DRUGB 60 FILE DRUGU
- 13 FILE EMBAL
- 5281 FILE EMBASE
- 1552 FILE ESBIOBASE
- 56 FILE FROSTI
- 189 FILE FSTA
- 4909 FILE GENBANK
- 492 FILE IFIPAT
- 1 FILE IMSDRUGNEWS
- 1 FILE IMSRESEARCH
- 1051 FILE LIFESCI
- 1946 FILE MEDLINE
- 14 FILE NTIS
- 2 FILE OCEAN 1159 FILE PASCAL
- 10 FILE PCTGEN
- 4 FILE PHAR
- 51 FILES SEARCHED...
  - 27 FILE PROMT
  - 1 FILE RDISCLOSURE
  - 2798 FILE SCISEARCH
  - 1090 FILE TOXCENTER
  - 671 FILE USGENE
  - 2030 FILE USPATFULL
  - 1 FILE USPATOLD
  - 326 FILE USPAT2
  - 519 FILE WPIDS 9 FILE WPIFV
  - 519 FILE WPINDEX
  - 1 FILE IPA
  - 1 FILE NAPRALERT
  - 23 FILE NLDB

# 52 FILES HAVE ONE OR MORE ANSWERS, 72 FILES SEARCHED IN STNINDEX

L1 QUE (GLYCOSYLTRANSFERASE OR (OLIGOSACCHAR? (W) TRANSFERASE))

```
=> d rank
     5281 EMBASE
F1
     4946 CAPLUS
     4909 GENBANK
F3
F4
     4584 DGENE
     3069 BIOSIS
F5
F6
     2798 SCISEARCH
     2490 BIOTECHNO
F7
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     2030 USPATFULL
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     1946 MEDLINE
F10
     1552 ESBIOBASE
F11
     1159 PASCAL
F12
      1090 TOXCENTER
      1051 LIFESCI
F13
F14
      756 BIOTECHABS
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      756 BIOTECHDS
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      519 WPIDS
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      492 IFIPAT
F20
      364 BIOENG
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      148 DISSABS
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      23 NLDB
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      14 CIN
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F40
      13 EMBAL
F41
       10 PCTGEN
F42
       9 WPIFV
F43
       4 ANTE
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       4 PHAR
F45
       3
         CROPU
F46
       2 OCEAN
F47
       1 IMSDRUGNEWS
F48
         IMSRESEARCH
       1
F49
       1
         RDISCLOSURE
F50
       1 USPATOLD
F51
       1 IPA
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# => file f1-f2, f5-f13, f17

1 NAPRALERT

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FILE 'WPIDS' ENTERED AT 10:41:49 ON 22 JAN 2008 COPYRIGHT (C) 2008 THE THOMSON CORPORATION

=> S L1 L2 27931 L1

=> S (organism or prokaryot? or transform?)(s) L2
10 FILES SEARCHED...

L3 881 (ORGANISM OR PROKARYOT? OR TRANSFORM?)(S) L2

=> S oligosaccharide (s) L3

L4 92 OLIGOSACCHARIDE (S) L3

=> S (glycanes or N-glycanes) and L4

L5 0 (GLYCANES OR N-GLYCANES) AND L4

=> S glycane? and L4

L6 0 GLYCANE? AND L4

=> S glycan? and L4

L7 20 GLYCAN? AND L4

=> dup rem L7

PROCESSING COMPLETED FOR L7

L8 18 DUP REM L7 (2 DUPLICATES REMOVED)

=> d ibib abs L8 1-18

L8 ANSWER 1 OF 18 USPATFULL on STN

ACCESSION NUMBER: 2007:308781 USPATFULL << LOGINID::20080122>>

TITLE: Methods of Refolding Mammalian Glycosyltranferases

INVENTOR(S): Saribas, Sami, Philadelphia, PA, UNITED STATES

Hakes, David, Willow Grove, PA, UNITED STATES

Willett, Scott, Doylestown, PA, UNITED STATES Johnson, Karl F., Hatboro, PA, UNITED STATES

Bezila, Daniel James, Quakertown, PA, UNITED STATES

Defrees, Shawn, North Wales, PA, UNITED STATES

PATENT ASSIGNEE(S): Neose Technologies, Inc., Horsham, PA, UNITED STATES, 19044 (U.S. corporation)

# NUMBER KIND DATE

PATENT INFORMATION: US 2007269879 A1 20071122 APPLICATION INFO.: US 2005-587769 A1 20050204 (10) . WO 2005-US3856 20050204 20060728 PCT 371 date

#### NUMBER DATE

PRIORITY INFORMATION: US 2004-542210P 20040204 (60)

US 2004-599406P 20040806 (60)

US 2004-627406P 20041112 (60)

DOCUMENT TYPE: Utility

FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: TOWNSEND AND TOWNSEND AND CREW, LLP, TWO EMBARCADERO

CENTER, EIGHTH FLOOR, SAN FRANCISCO, CA, 94111-3834, US

NUMBER OF CLAIMS:

EXEMPLARY CLAIM:

NUMBER OF DRAWINGS: 54 Drawing Page(s)

LINE COUNT:

6293

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides methods of refolding mammalian glycosyltransferases that have been produced in bacterial cells, and methods to use such refolded glycosyltransferases, including glycosyltransferase mutants that have enhanced ability to be refolded. The invention also provides methods of refolding more than one glycosyltransferase in a single vessel, methods to use such refolded glycosyltransferases, and reaction mixtures comprising the refolded glycosyltransferases.

### CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8 ANSWER 2 OF 18 USPATFULL on STN

ACCESSION NUMBER: 2006:334025 USPATFULL << LOGINID::20080122>>

TITLE:

Production of sialylated N- \*\*\*glycans\*\*\* in lower eukaryotes

INVENTOR(S): Hamilton, Stephen R., Enfield, NH, UNITED STATES PATENT ASSIGNEE(S): GlycoFi, Inc., Lebanon, NH, UNITED STATES (U.S.

corporation)

# NUMBER KIND DATE

PATENT INFORMATION: US 2006286637 A1 20061221

APPLICATION INFO.: US 2006-429672 A1 20060505 (11)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 2003-371877, filed

on 20 Feb 2003, PENDING Continuation-in-part of Ser.

No. US 2005-84624, filed on 17 Mar 2005, PENDING

Continuation-in-part of Ser. No. US 2005-108088, filed on 15 Apr 2005, PENDING Continuation-in-part of Ser.

No. US 2001-892591, filed on 27 Jun 2001, GRANTED, Pat.

No. US 7029872 Continuation-in-part of Ser. No. US

2003-371877, filed on 20 Feb 2003, PENDING

Continuation-in-part of Ser. No. WO 2002-US41510, filed

on 24 Dec 2002, PENDING

#### NUMBER DATE

PRIORITY INFORMATION: US 2000-214358P 20000628 (60)

US 2000-215638P 20000630 (60) US 2001-279997P 20010330 (60)

US 2004-554139P 20040317 (60)

US 2004-562424P 20040415 (60)

US 2001-344169P 20011227 (60)

DOCUMENT TYPE: Utility

APPLICATION FILE SEGMENT:

LEGAL REPRESENTATIVE: FISH & NEAVE IP GROUP, ROPES & GRAY LLP, 1251 AVENUE OF

THE AMERICAS FL C3, NEW YORK, NY, 10020-1105, US

NUMBER OF CLAIMS: 34

EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 69 Drawing Page(s)

LINE COUNT:

8841

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to eukaryotic host cells which have been modified to produce sialylated glycoproteins by the heterologous expression of a set of glycosyltransferases, including sialyltransferase and/or trans-sialidase, to become host-strains for the production of

mammalian, e.g., human therapeutic glycoproteins. Novel eukaryotic host cells expressing a CMP-sialic acid biosynthetic pathway for the production of sialylated glycoproteins are also provided. The invention provides nucleic acid molecules and combinatorial libraries which can be used to successfully target and express mammalian enzymatic activities (such as those involved in sialylation) to intracellular compartments in a eukaryotic host cell. The process provides an engineered host cell which can be used to express and target any desirable gene(s) involved in glycosylation.

# CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8 ANSWER 3 OF 18 USPATFULL on STN

2006:274549 USPATFULL << LOGINID::20080122>> ACCESSION NUMBER:

TITLE:

Expression of soluble, active eukaryotic

glycosyltransferases in prokaryotic organisms

INVENTOR(S): Schwartz, Marc F., West Windsor, NJ, UNITED STATES

Soliman, Tarik, Chester Springs, PA, UNITED STATES

PATENT ASSIGNEE(S): Neose Technologies, Inc., Horsham, PA, UNITED STATES (U.S. corporation)

> NUMBER KIND DATE

PATENT INFORMATION: US 2006234345 A1 20061019 APPLICATION INFO.: US 2006-388595 A1 20060324 (11)

> NUMBER DATE

PRIORITY INFORMATION: US 2005-665396P 20050324 (60)

US 2005-668899P 20050405 (60) US 2005-732409P 20051031 (60)

DOCUMENT TYPE:

Utility

FILE SEGMENT:

APPLICATION

LEGAL REPRESENTATIVE: TOWNSEND AND TOWNSEND AND CREW, LLP, TWO EMBARCADERO

CENTER, EIGHTH FLOOR, SAN FRANCISCO, CA, 94111-3834, US

NUMBER OF CLAIMS:

19

EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 10 Drawing Page(s)

LINE COUNT:

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

2793

AB The present invention provides enhanced methods of producing soluble, active eukaryotic glycosyltransferases in prokaryotic microorganisms that have an oxidizing environment.

# CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8 ANSWER 4 OF 18 USPATFULL on STN

ACCESSION NUMBER: 2005:196310 USPATFULL << LOGINID::20080122>>

TITLE:

Method to engineer mammanlian-type carbohydrate

structures

INVENTOR(S):

Wildt, Stefan, Lebanon, NH, UNITED STATES Miele, Robert Gordon, So. Bend, IN, UNITED STATES Nett, Juergen Hermann, Grantham, NH, UNITED STATES Davidson, Robert C., Enfield, NH, UNITED STATES

NUMBER KIND DATE

PATENT INFORMATION: US 2005170452 A1 20050804 APPLICATION INFO.: US 2003-500240 A1 20021224 (10)

> WO 2002-US41510 20021224

> > NUMBER DATE

PRIORITY INFORMATION: US 2001-344169P 20011227 (60)

DOCUMENT TYPE: Utility

FILE SEGMENT: **APPLICATION** 

LEGAL REPRESENTATIVE: FISH & NEAVE IP GROUP, ROPES & GRAY LLP, 1251 AVENUE OF

THE AMERICAS FL C3, NEW YORK, NY, 10020-1105, US 60

NUMBER OF CLAIMS:

EXEMPLARY CLAIM:

NUMBER OF DRAWINGS: 46 Drawing Page(s)

LINE COUNT:

6002

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The present invention relates to host cells having modified lipid-linked oligosaccharides which may be modified further by heterologous expression of a set of glycosyltransferases, sugar transporters and mannosidases to become host-strains for the production of mammalian, e.g., human therapeutic glycoproteins. The process provides an engineered host cell which can be used to express and target any desirable gene(s) involved in glycosylation. Host cells with modified lipid-linked oligosaccharides are created or selected. N- \*\*\*glycans\*\*\* made in the engineered host cells have a GlcNAcMan.sub.3GlcNAc.sub.2 core structure which may then be modified further by heterologous expression of one or more enzymes, e.g., glycosyl-transferases, sugar transporters and mannosidases, to yield human-like glycoproteins. For the production of therapeutic proteins, this method may be adapted to engineer cell lines in which any desired glycosylation structure may be obtained.

# CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8 ANSWER 5 OF 18 USPATFULL on STN

2004:82727 USPATFULL << LOGINID::20080122>> ACCESSION NUMBER:

TITLE:

Murine alpha (1,3) fucosyltransferase Fuc-TVII, DNA encoding the same, method for preparing the same, antibodies recognizing the same, immunoassays for detecting the same, plasmids containing such DNA, and cells containing such a plasmid

INVENTOR(S): Natsuka, Shunji, Ann Arbor, MI, UNITED STATES

Gersten, Kevin M., Seattle, WA, UNITED STATES Lowe, John B., Ann Arbor, MI, UNITED STATES

PATENT ASSIGNEE(S): Regents of the University of Michigan, Ann Arbor, MI, UNITED STATES (U.S. corporation)

> NUMBER KIND DATE

PATENT INFORMATION: US 2004063178 A1 20040401 APPLICATION INFO.: US 2003-700505 A1 20031105 (10)

RELATED APPLN. INFO.: Division of Ser. No. US 2001-784077, filed on 16 Feb

2001, PENDING Continuation of Ser. No. US 1996-613098,

filed on 8 Mar 1996, ABANDONED

DOCUMENT TYPE: Utility APPLICATION FILE SEGMENT:

LEGAL REPRESENTATIVE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C., 1940

DUKE STREET, ALEXANDRIA, VA, 22314

NUMBER OF CLAIMS: 16 1

EXEMPLARY CLAIM:

NUMBER OF DRAWINGS: 8 Drawing Page(s)

LINE COUNT: 2002

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A gene which encodes a murine leukocyte .alpha.(1,3)fucosyltransferase capable of synthesizing the sialyl Lewis x determinant has been cloned.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8 ANSWER 6 OF 18 WPIDS COPYRIGHT 2008 THE THOMSON CORP on STN

ACCESSION NUMBER: 2004-635587 [61] WPIDS

CROSS REFERENCE: 2002-154653; 2003-607974; 2004-635586; 2004-642511;

2004-642512; 2004-652965; 2005-649600; 2005-714625; 2006-117604; 2006-145914; 2006-152950; 2006-154044;

2006-154403; 2006-155709; 2006-327511; 2006-470082;

2006-472750; 2007-016216; 2007-173191

DOC. NO. CPI: C2004-228474 [61] TITLE:

Producing modified N- \*\*\*glycans\*\*\* in non-human eukaryotic host cell comprises introducing into the host cell enzymes for production of a Man5G1cNAc2 carbohydrate structure

B04; C06; D16; P13 DERWENT CLASS:

BOBROWICZ P; CHOI B; CHOI B K; DAVIDSON R C; GERNGROSS T INVENTOR: U; HAMILTON S R; NETT J H; WILDT S

PATENT ASSIGNEE: (BOBR-I) BOBROWICZ P; (CHOI-I) CHOI B; (DAVI-I) DAVIDSON

R C; (GERN-I) GERNGROSS T U; (HAMI-I) HAMILTON S R; (NETT-I) NETT J H; (WILD-I) WILDT S; (CHOI-I) CHOI B W; (DAVI-I) DAVIDSON R; (GERN-I) GERNGROSS T; (HAMI-I) HAMILTON S; (NETT-I) NETT J

COUNTRY COUNT: PATENT INFO ABBR.:

MAIN IPC PATENT NO KIND DATE WEEK LA PG

WO 2004074499 A2 20040902 (200461)\* EN 167[13] EP 1599596 A2 20051130 (200578) EN AU 2004213869 A1 20040902 (200610) EN JP 2006518601 W 20060817 (200654) JA 118

### APPLICATION DETAILS:

PATENT NO KIND	APPLICATION DATE
WO 2004074499 A2	· WO 2004-US5244 20040220
AU 2004213869 A1	AU 2004-213869 20040220
EP 1599596 A2	EP 2004-713437 20040220
EP 1599596 A2	WO 2004-US5244 20040220
JP 2006518601 W	WO 2004-US5244 20040220
JP 2006518601 W	JP 2006-503788 20040220

### FILING DETAILS:

PATENT NO .	KIND	PATENT NO
EP 1599596	A2 Based on	WO 2004074499 A
AU 200421386	9 Al Based on	WO 2004074499 A
JP 2006518601	W Based on	WO 2004074499 A

PRIORITY APPLN. INFO: US 2003-371877 20030220

AN 2004-635587 [61] WPIDS

CR 2002-154653; 2003-607974; 2004-635586; 2004-642511; 2004-642512; 2004-652965; 2005-649600; 2005-714625; 2006-117604; 2006-145914; 2006-152950; 2006-154044; 2006-154403; 2006-155709; 2006-327511;

2006-470082; 2006-472750; 2007-016216; 2007-173191

AB WO 2004074499 A2 UPAB: 20060203

NOVELTY - Producing a human-like glycoprotein in a non-human eukaryotic host cell that does not display a 1,6 mannosyltransferase activity with respect to the N- \*\*\*glycan\*\*\* on a glycoprotein comprises introducing into the host cell one or more enzymes for production of a Man5G1cNAc2 carbohydrate structure, where Man5G1cNAc2 is produced within the host cell at a yield of at least 30 mole percent.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

- (1) a nucleic acid library comprising at least two different genetic constructs, where at least one genetic construct comprises a nucleic acid fragment encoding a glycosylation enzyme ligated in-frame with a nucleic acid fragment encoding a cellular targeting signal peptide which it is not normally associated with or a DNA library of fusion constructs comprising:
- (i) at least two nucleotide sequences encoding a cellular targeting signal peptide and at least one nucleotide sequence encoding a catalytic domain region, e.g. mannosidases, glycosyltransferases or glycosidases, or
- (ii) at least one nucleotide sequence encoding a cellular targeting signal peptide and at least two nucleotide sequences encoding a catalytic domain region, e.g. mannosidases, glycosyltransferases or glycosidases, where at least one nucleotide sequence encoding a catalytic domain region is ligated in-frame to a nucleotide sequence encoding a cellular targeting
- (2) a vector comprising a fusion construct derived from a DNA library of (1) operably linked to an expression control sequence, where the cellular targeting signal peptide is targeted to the endoplasmic reticulum (ER), Golgi or trans-Golgi network;
  - (3) a human-like glycoprotein produced by the method above;
  - (4) a method for altering the glycosylation pattern of a eukaryotic

cell:

- (5) an isolated nucleic acid molecule comprising or consisting of nucleic acid sequences comprising:
- (i) at least 45 contiguous nucleotide residues of a sequence of 1363 or 2240 bp (SEQ ID NOS: 41 or 43);
  - (ii) homologs, variants or derivatives of (i); or
- (iii) sequences that hybridize under stringent conditions to (i) but excluding sequences which encode the S. cerevisiae OCH1 and MNN1 genes;
- (6) an isolated polypeptide comprising the sequence of 454 or 746 amino acids (SEQ ID NOS: 42 or 44);
- (7) a eukaryotic host cell comprising at least one vector of (2) or a host cell, produced by the method above, comprising a disruption or mutation of SEQ ID NOS: 41 or 43 which is characterized by having a reduced expression level of SEQ ID NOS: 41 or 43 compared to a host cell without the disruption or mutation; and
  - (8) a method of modifying plant glycosylation.

USE - The method is useful for producing a human-like glycoprotein in a non-human eukaryotic host cell that does not display a 1,6 mannosyltransferase activity with respect to the N- \*\*\*glycan\*\*\* on a glycoprotein. The methods, nucleic acid molecule, polypeptide, and DNA library are useful in producing glycoproteins characterized by a high intracellular Man5G1cNAc2 content, i.e. N- \*\*\*glycans\*\*\*

### L8 ANSWER 7 OF 18 USPATFULL on STN

ACCESSION NUMBER: 2003:17884 USPATFULL << LOGINID::20080122>>

TITLE:

Control of immune responses by modulating activity of

glycosyltransferases

INVENTOR(S): Marth, Jamey D., San Diego, CA, UNITED STATES

Paulson, James C., Del Mar, CA, UNITED STATES

PATENT ASSIGNEE(S): Cytel Corporation (U.S. corporation)

### NUMBER KIND DATE

PATENT INFORMATION: US 2003013636 A1 20030116 APPLICATION INFO.: US 2002-131721 A1 20020423 (10)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1998-87117, filed on 29 May

1998, GRANTED, Pat. No. US 6376475

# NUMBER DATE

PRIORITY INFORMATION: US 1997-48303P 19970530 (60)

DOCUMENT TYPE:

Utility

FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: TOWNSEND AND TOWNSEND AND CREW, LLP, TWO EMBARCADERO

CENTER, EIGHTH FLOOR, SAN FRANCISCO, CA, 94111-3834

NUMBER OF CLAIMS: 40

EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 6 Drawing Page(s)

LINE COUNT:

2059

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention provides methods for inhibiting immune responses by inhibiting the biosynthesis of the sialyl galactosides that are involved in immune responses. In particular, B lymphocyte-mediated immune responses are mediated by interfering with synthesis of .alpha.2,6 sialylgalactosides, while T lymphocyte-mediated immune responses are inhibited by blocking synthesis of .alpha.2,3 sialylgalactosides. The inhibition is accomplished by, for example, inhibiting the activity of a glycosyltransferase involved in synthesis of the respective sialyl galactoside.

### CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8 ANSWER 8 OF 18 PASCAL COPYRIGHT 2008 INIST-CNRS. ALL RIGHTS RESERVED.

on STN

ACCESSION NUMBER:

2004-0580113 PASCAL <<LOGINID::20080122>>

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TITLE (IN ENGLISH): Gangliosides and ganglioside metabolism in normal and tumor cell lines and in embriogenesis

Recent research developments in molecular & cellular

biochemistry. Vol. 1 (2003)

AUTHOR:

COLOMBO Irma; RIZZO Angela Maria; SOTTOCORNOLA Elena;

**BERRA Bruno** 

PANDALAI S. G. (ed.)

CORPORATE SOURCE:

Institute of General Physiology and Biological

Chemistry, University of Milan, Via D. Trentacoste 2,

20134 Milan, Italy

SOURCE:

Recent research developments in molecular & cellular

biochemistry, (2003), 203-227, 158 refs.

ISBN: 81-271-0035-8

DOCUMENT TYPE: Journal BIBLIOGRAPHIC LEVEL: Analytic COUNTRY: India

English

LANGUAGE: AVAILABILITY:

INIST-L 29475, 354000124340990140

AN 2004-0580113 PASCAL << LOGINID::20080122>>

CP Copyright .COPYRGT. 2004 INIST-CNRS. All rights reserved. Glycosphingolipids (GSLs) are ubiquitous components of the plasma

membrane that form complex patterns on all eukaryotic cells. They are anchored into the outer leaflet of the cell membrane by a hydrophobic ceramide moiety, that is linked to an extracellular-oriented hydrophilic

\*\*\*glycan\*\*\* chain. Variations in the type, number, charge and linkage of sugar residues in the \*\*\*oligosaccharide\*\*\* chain give rise to a wide range of naturally occurring GSLs. Few enzymes generate the molecular diversity of GSLs: de novo biosynthesis of GSLs starts with the formation of ceramide at the membranes of the endoplasmic reticulum and subsequent glycosyltransferases, located in the Golgi complex, add step by step single saccharide residues to the ceramide backbone. Apart from the species-dependence, these molecules form cell specific and developmentally regulated patterns on cell surface that characteristically change with cell growth, ontogenesis, viral

\*\*\*transformation\*\*\*, and oncogenesis. The expression of cell-and tissue-specific GSLs and of stable lipid patterns indicates a tight regulation of their biosynthesis, degradation and intracellular transport, but it is not still clearly defined how these processes are controlled. GSLs interact at the cell surface with external ligands/agents/cells eliciting a series of molecular events that allow to control cell proliferation/arrest of proliferation, cell differentiation/apoptosis, embryogenesis, ageing, and oncogenesis. Indeed, they are, by themselves and as components of lipid microdomains,

involved in cell-type specific adhesion/recognition phenomena and in initiation/modulation of signaling transduction events. A clear knowledge of the molecular mechanisms by which they may switch on/off specific signals within the cell is still lacking. We report here our recent findings that contribute to define, in the complexity of GSL biology, the regulatory mechanisms of some enzymes involved in the biosynthetic pathway of sialic acid-containing GSLs (gangliosides) and the role of these bioactive molecules in cellular events, such as tumor cell migration and invasiveness, and in the modulation and regulation of expression and activation levels of membrane tyrosine-kinase receptors. These studies have been carried out using various in vitro experimental models, mainly normal and tumor rodent cell lines. Furthermore, in the present review, we also report our results concerning the GSL expression and the \*\*\*glycosyltransferase\*\*\* activities in two typical models to investigate the biochemical basis of development and embryogenesis: Xenopous laevis and chick embryos at different stages of development and treated with various drugs.

# L8 ANSWER 9 OF 18 USPATFULL on STN

2002:206768 USPATFULL << LOGINID::20080122>> ACCESSION NUMBER:

TITLE:

Murine alpha (1,3) fucosyltransferase Fuc-TVII, DNA encoding the same, method for preparing the same, antibodies recognizing the same, Immunoassays for detecting the same, plasmids containing such DNA, and cells containing such a plasmid

INVENTOR(S):

Natsuka, Shunji, Ann Arbor, MI, UNITED STATES Gersten, Kevin M., Seattle, WA, UNITED STATES Lowe, John B., Ann Arbor, MI, UNITED STATES

PATENT ASSIGNEE(S): The Regents for the University of Michigan, Ann Arbor,

# MI, UNITED STATES, 48109 (U.S. corporation)

#### NUMBER KIND DATE

US 2002111469 A1 20020815 PATENT INFORMATION:

> US 6693183 B2 20040217

APPLICATION INFO.: US 2001-784077 A1 20010216 (9)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1996-613098, filed on 8 Mar

1996, ABANDONED

DOCUMENT TYPE: Utility

FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: OBLON SPIVAK MCCLELLAND MAIER & NEUSTADT PC, FOURTH

FLOOR, 1755 JEFFERSON DAVIS HIGHWAY, ARLINGTON, VA,

NUMBER OF CLAIMS: 16

EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 8 Drawing Page(s)

LINE COUNT:

2000

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A gene which encodes a murine leukocyte .alpha.(1,3)fucosyltransferase capable of synthesizing the sialyl Lewis x determinant has been cloned.

# CAS INDEXING IS AVAILABLE FOR THIS PATENT.

### L8 ANSWER 10 OF 18 USPATFULL on STN

ACCESSION NUMBER: 2002:191623 USPATFULL <<LOGINID::20080122>>

TITLE:

Methods and products for the synthesis of oligosaccharide structures on glycoproteins, glycolipids, or as free molecules, and for the isolation of cloned genetic sequences that determine

these structures

Lowe, John B., Ann Arbor, MI, UNITED STATES INVENTOR(S):

PATENT ASSIGNEE(S): The Regents of the University of Michigan, Ann Arbor,

**MI, UNITED STATES, 48109-1248** 

#### NUMBER KIND DATE

PATENT INFORMATION: US 2002102688 A1 20020801

APPLICATION INFO.: US 2001-863475 A1 20010524 (9)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1997-823489, filed on 25

Mar 1997, ABANDONED Division of Ser. No. US

1996-696731, filed on 14 Aug 1996, PATENTED Division of

Ser. No. US 1995-393246, filed on 23 Feb 1995, PATENTED

Continuation of Ser. No. US 1994-220433, filed on 30

Mar 1994, ABANDONED Division of Ser. No. US

1992-914281, filed on 20 Jul 1992, PATENTED

Continuation-in-part of Ser. No. US 1991-715900, filed

on 19 Jun 1991, ABANDONED Continuation-in-part of Ser.

No. US 1990-627621, filed on 12 Dec 1990, ABANDONED Continuation-in-part of Ser. No. US 1990-479858, filed

on 14 Feb 1990, ABANDONED

DOCUMENT TYPE:

Utility

APPLICATION FILE SEGMENT:

LEGAL REPRESENTATIVE: OBLON SPIVAK MCCLELLAND MAIER & NEUSTADT PC, FOURTH

FLOOR, 1755 JEFFERSON DAVIS HIGHWAY, ARLINGTON, VA,

22202

NUMBER OF CLAIMS:

EXEMPLARY CLAIM:

NUMBER OF DRAWINGS: 44 Drawing Page(s)

LINE COUNT: 6049

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A method for isolating a gene, comprising:

(i) isolating a cell possessing a post-translational characteristic of interest, said post-translational characteristic being the presence of a membrane-bound oligosaccharide or polysaccharide of interest on the surface of said cell, the presence of a soluble oligosaccharide or polysaccharide of interest in an extract of said cell, or the presence of a particularly glycosyltransferase activity in an extract of said cell;

- (ii) creating a genetic library of either cDNA or genomic DNA from the genetic material of said isolated cell;
- (iii) transforming host cells with said genetic library; and
- (iv) screening said transformed host cells for a host cell containing said post-translational characteristic, thereby obtaining a cell containing said gene, is disclosed. The method can be used to obtain genes encoding glycosyltransferases.

### CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8 ANSWER 11 OF 18 USPATFULL on STN

2002:88466 USPATFULL << LOGINID::20080122>> ACCESSION NUMBER:

TITLE:

Control of immune responses by modulating activity of

glycosyltransferases

INVENTOR(S): Marth, Jamey D., San Diego, CA, United States

Paulson, James C., Del Mar, CA, United States

PATENT ASSIGNEE(S): Abaron Biosciences, Inc., Del Mar, CA, United States

(U.S. corporation)

#### NUMBER KIND DATE

PATENT INFORMATION: US 6376475 B1 20020423 APPLICATION INFO.: US 1998-87117 19980529 (9)

#### NUMBER DATE

PRIORITY INFORMATION: US 1997-48303P 19970530 (60)

DOCUMENT TYPE:

Utility

FILE SEGMENT:

GRANTED

PRIMARY EXAMINER:

Prouty, Rebecca E.

ASSISTANT EXAMINER: Steadman, David J.

LEGAL REPRESENTATIVE: Townsend & Townsend & Crew LLP NUMBER OF CLAIMS:

19

EXEMPLARY CLAIM:

NUMBER OF DRAWINGS: 6 Drawing Figure(s); 6 Drawing Page(s) LINE COUNT:

1986 CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention provides methods for inhibiting immune responses by inhibiting the biosynthesis of the sialyl galactosides that are involved in immune responses. In particular, B lymphocyte-mediated immune responses are mediated by interfering with synthesis of .alpha.2,6 sialylgalactosides, while T lymphocyte-mediated immune responses are inhibited by blocking synthesis of .alpha.2,3 sialylgalactosides. The inhibition is accomplished by, for example, inhibiting the activity of a glycosyltransferase involved in synthesis of the respective sialyl galactoside.

### CAS INDEXING IS AVAILABLE FOR THIS PATENT.

THE THOMSON CORP on STN L8 ANSWER 12 OF 18 WPIDS COPYRIGHT 2008

ACCESSION NUMBER: 2002-154653 [20] WPIDS

CROSS REFERENCE: 2003-607974; 2004-635587; 2004-642511; 2004-642512;

2004-652965; 2005-649600; 2005-714625; 2006-117604; 2006-145914; 2006-152950; 2006-154044; 2006-154403;

2006-155709; 2006-327511; 2006-470082; 2006-472750;

2007-016216; 2007-173191

C2002-048336 [20] DOC. NO. CPI:

TITLE: Producing modified glycoproteins for therapeutic use, by providing host not expressing enzymes involved in high

mannose structure production, and introducing enzymes for carbohydrate structure production into host

DERWENT CLASS: B04; D16

BOBROWICZ P; CHOI B; DAVIDSON R C; GERNGROSS T U: INVENTOR:

HAMILTON S R; NETT J H; WILDT S; GERNGROSS U

PATENT ASSIGNEE: (BOBR-I) BOBROWICZ P; (CHOI-I) CHOI B; (DAVI-I) DAVIDSON

R C; (GERN-I) GERNGROSS T U; (GLYC-N) GLYCOFI INC; (HAMI-I) HAMILTON S R; (NETT-I) NETT J H; (WILD-I) WILDT

# PATENT INFO ABBR.:

# PATENT NO KIND DATE WEEK LA PG MAIN IPC

WO 2002000879 A2 20020103 (200220)\* EN 51[1] AU 2001076842 A 20020108 (200235) EN US 20020137134 A1 20020926 (200265) EN EP 1297172 A2 20030402 (200325) EN KR 2003031503 A 20030421 (200353) KO JP 2004501642 W 20040122 (200411) JA 90 US 20040018590 A1 20040129 (200413) EN NZ 523476 A 20040430 (200431) EN AU 2001276842 A2 20020108 (200433) EN EP 1522590 A1 20050413 (200525) EN MX 2003000105 A1 20041101 (200558) ES EP 1297172 B1 20051109 (200574) EN DE 60114830 E 20051215 (200582) DE US 7029872 B2 20060418 (200627) EN ES 2252261 T3 20060516 (200634) ES US 20060148035 A1 20060706 (200645) EN DE 60114830 T2 20060803 (200651) DE US 20060177898 A1 20060810 (200654) EN US 20070105127 A1 20070510 (200732) EN US 20070178551 A1 20070802 (200753) EN AU 2001276842 B2 20070426 (200763) EN

#### APPLICATION DETAILS:

# PATENT NO KIND APPLICATION DATE

WO 2001-US20553 20010627 WO 2002000879 A2 US 2000-214358P 20000628 US 20020137134 A1 Provisional US 2000-214358P 20000628 US 20040018590 A1 Provisional US 2000-214358P 20000628 US 7029872 B2 Provisional US 2000-214358P 20000628 US 20060148035 A1 Provisional US 20060177898 A1 Provisional US 2000-214358P 20000628 US 2000-214358P 20000628 US 20070105127 A1 Provisional US 2000-214358P 20000628 US 20070178551 A1 Provisional US 20020137134 A1 Provisional US 2000-215638P 20000630 US 20040018590 A1 Provisional US 2000-215638P 20000630 US 7029872 B2 Provisional US 2000-215638P 20000630 US 2000-215638P 20000630 US 20060148035 A1 Provisional US 20060177898 A1 Provisional US 2000-215638P 20000630 US 2000-215638P 20000630 US 20070105127 A1 Provisional US 20070178551 A1 Provisional US 2000-215638P 20000630 US 2001-279997P 20010330 US 20020137134 A1 Provisional US 20040018590 A1 Provisional US 2001-279997P 20010330 US 2001-279997P 20010330 US 7029872 B2 Provisional US 20060148035 A1 Provisional US 2001-279997P 20010330 US 2001-279997P 20010330 US 20060177898 A1 Provisional US 20070105127 A1 Provisional US 2001-279997P 20010330 US 2001-279997P 20010330 US 20070178551 A1 Provisional AU 2001076842 A AU 2001-76842 20010627 AU 2001-276842 20010627 AU 2001276842 A2 DE 60114830 E DE 2001-614830 20010627 DE 2001-614830 20010627 DE 60114830 T2 EP 2001-954606 20010627 EP 1297172 A2 EP 1522590 A1 Div Ex EP 2001-954606 20010627 EP 2001-954606 20010627 EP 1297172 B1 EP 2001-954606 20010627 DE 60114830 E EP 2001-954606 20010627 ES 2252261 T3 EP 2001-954606 20010627 DE 60114830 T2 NZ 523476 A NZ 2001-523476 20010627 US 20020137134 A1 US 2001-892591 20010627 US 20040018590 A1 CIP of US 2001-892591 20010627 US 7029872 B2 US 2001-892591 20010627 US 2001-892591 20010627 US 20060148035 A1 Div Ex.

US 2001-892591 20010627 US 20060177898 A1 Div Ex US 2001-892591 20010627 US 20070105127 A1 Div Ex US 2001-892591 20010627 US 20070178551 A1 Cont of EP 1297172 A2 WO 2001-US20553 20010627 WO 2001-US20553 20010627 JP 2004501642 W WO 2001-US20553 20010627 NZ 523476 A WO 2001-US20553 20010627 MX 2003000105 A1 WO 2001-US20553 20010627 EP 1297172 B1 WO 2001-US20553 20010627 DE 60114830 E WO 2001-US20553 20010627 DE 60114830 T2 JP 2002-506194 20010627 JP 2004501642 W KR 2002-717911 20021228 KR 2003031503 A MX 2003-105 20030107 MX 2003000105 A1 US 2003-371877 20030220 US 20040018590 A1 EP 1522590 A1 EP 2004-25648 20010627 EP 1297172 B1 Related to EP 2004-25648 20041028 US 20060177898 A1 US 2005-249061 20051011 US 2005-265444 20051101 US 20070178551 A1 US 20070105127 A1 US 2005-271217 20051110 US 2005-271235 20051110 US 20060148035 A1 AU 2001276842 B2 AU 2001-276842 20010627

# FILING DETAILS:

#### PATENT NO KIND PATENT NO EP 1522590 A1 Div ex EP 1297172 EP 1297172 DE 60114830 E Based on ES 2252261 T3 Based on EP 1297172 EP 1297172 DE 60114830 T2 Based on Α EP 1297172 B1 Related to EP 1522590 US 20060148035 Al Div ex US 7029872 В US 20060177898 Al Div ex US 7029872 В US 20070105127 Al Div ex US 7029872 В US 20070178551 A1 Cont of US 7029872 В AU 2001076842 A Based on WO 2002000879 A WO 2002000879 A EP 1297172 A2 Based on JP 2004501642 W Based on WO 2002000879 A NZ 523476 A Based on WO 2002000879 A 'AU 2001276842 A2 Based on WO 2002000879 A MX 2003000105 A1 Based on WO 2002000879 A EP 1297172 B1 Based on WO 2002000879 A DE 60114830 E Based on WO 2002000879 A DE 60114830 T2 Based on WO 2002000879 A

# PRIORITY APPLN. INFO: US 2001-279997P 20010330 US 2000-214358P 20000628

US 2000-214538P 20000630 US 2001-892591 20010627 US 2003-371877 20030220 US 2005-249061 20051011 US 2005-271217 20051110 US 2005-271235 20051110 US 2005-265444 20051101

AN 2002-154653 [20] WPIDS

AU 2001276842 B2 Based on

CR 2003-607974; 2004-635587; 2004-642511; 2004-642512; 2004-652965; 2005-649600; 2005-714625; 2006-117604; 2006-145914; 2006-152950; 2006-154044; 2006-154403; 2006-155709; 2006-327511; 2006-470082; 2006-472750; 2007-016216; 2007-173191

WO 2002000879 A

AB WO 2002000879 A2 UPAB: 20060202

NOVELTY - Producing (M) glycoproteins having carbohydrate structures similar to those produced by human cells in a lower eukaryote, comprising providing a unicellular/multicellular fungal host, which does not express enzymes involved in production of high mannose structures, and introducing into the host enzymes for production of carbohydrate structure, is new.

DETAILED DESCRIPTION - Producing (M) glycoproteins having carbohydrate structures similar to those produced by human cells in a lower eukaryote, comprising providing a unicellular/multicellular fungal host, which does not express enzymes involved in production of high

mannose structures, and introducing into the host enzymes for production of carbohydrate structure, such as Man5GlcNAc2, Man8GlcNAc2 or Man9GlcNAc2, is new. The enzymes are selected to have optimal activity at the pH of the location in the host where the carbohydrate structure is produced or which are targeted to a subcellular location in the host where enzyme will have optimal activity to produce the structure.

INDEPENDENT CLAIMS are also included for the following:

- (1) a host (I) which does not express enzymes involved in production of high mannose structures;
  - (2) a glycoprotein (II) produced by (M); and
- (3) a library (III) comprising at least two genes encoding exogenous glycosylation enzyme.

ACTIVITY - None given.

MECHANISM OF ACTION - None given.

USE - (M) is useful for producing glycoproteins having carbohydrate structures similar to those produced by human cells in a lower eukaryote (claimed). (II) is useful as human or animal therapeutic agent.

# L8 ANSWER 13 OF 18 USPATFULL on STN

2001:121300 USPATFULL << LOGINID::20080122>> ACCESSION NUMBER:

TITLE:

Methods and products for the synthesis of oligosaccharide structures on glycoproteins, glycolipids, or as free molecules, and for the isolation of cloned genetic sequences that determine

Lowe, John B., Ann Arbor, MI, United States INVENTOR(S):

PATENT ASSIGNEE(S): The Regents of the University of Michigan, Ann Arbor, MI, United States (U.S. corporation)

NUMBER KIND DATE

PATENT INFORMATION: US 6268193 B1 20010731 APPLICATION INFO.: US 1998-42531 19980317 (9)

RELATED APPLN. INFO.: Division of Ser. No. US 1996-696731, filed on 14 Aug

1996, now patented, Pat. No. US 5955347 Division of Ser. No. US 1995-393246, filed on 23 Feb 1995, now patented, Pat. No. US 5595900 Continuation of Ser. No. US 1994-220433, filed on 30 Mar 1994, now abandoned Division of Ser. No. US 1992-914281, filed on 20 Jul 1992, now patented, Pat. No. US 5324663 Continuation-in-part of Ser. No. US 1991-715900, filed on 19 Jun 1991, now abandoned Continuation-in-part of Ser. No. US 1990-627621, filed on 12 Dec 1990, now abandoned Continuation-in-part of Ser. No. US 1990-479858, filed on 14 Feb 1990, now abandoned

DOCUMENT TYPE: Utility

FILE SEGMENT: GRANTED

PRIMARY EXAMINER: Prouty, Rebecca E.

LEGAL REPRESENTATIVE: Oblon, Spivak, McClelland, Maier & Neustadt, P.C.

NUMBER OF CLAIMS:

10

EXEMPLARY CLAIM:

NUMBER OF DRAWINGS: 43 Drawing Figure(s); 43 Drawing Page(s)

LINE COUNT: 5302

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

A method for isolating a gene, comprising:

- (i) isolating a cell possessing a post-translational characteristic of interest, said post-translational characteristic being the presence of a membrane-bound oligosaccharide or polysaccharide of interest on the surface of said cell, the presence of a soluble oligosaccharide or polysaccharide of interest in an extract of said cell, or the presence of a particularly glycosyltransferase activity in an extract of said cell;
- (ii) creating a genetic library of either cDNA or genomic DNA from the genetic material of said isolated cell;
- (iii) transforming host cells with said genetic library; and
- (iv) screening said transformed host cells for a host cell containing

said post-translational characteristic, thereby obtaining a cell containing said gene, is disclosed. The method can be used to obtain genes encoding glycosyltransferases.

# CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8 ANSWER 14 OF 18 USPATFULL on STN

ACCESSION NUMBER: 1999:113635 USPATFULL << LOGINID::20080122>>

TITLE:

Methods and products for the synthesis of oligosaccharide structures on glycoproteins, glycolipids, or as free molecules, and for the isolation of cloned genetic sequences that determine

these structures INVENTOR(S): Lowe,

Lowe, John B., Ann Arbor, MI, United States

PATENT ASSIGNEE(S): The Regents of the University of Michigan, Ann Arbor,

MI, United States (U.S. corporation)

### NUMBER KIND DATE

PATENT INFORMATION: US 5955347 19990921 APPLICATION INFO.: US 1996-696731 19960814 (8)

RELATED APPLN. INFO.: Division of Ser. No. US 1995-393246, filed on 23 Feb

1995, now patented, Pat. No. US 5595900 which is a continuation of Ser. No. US 1994-220433, filed on 30 Mar 1994, now abandoned which is a division of Ser. No. US 1992-914281, filed on 20 Jul 1992, now patented, Pat. No. US 5324663 which is a continuation-in-part of Ser. No. US 1991-715900, filed on 19 Jun 1991, now abandoned which is a continuation-in-part of Ser. No. US 1990-627621, filed on 12 Dec 1990, now abandoned which is a continuation-in-part of Ser. No. US 1990-479858, filed on 14 Feb 1990, now abandoned

DOCUMENT TYPE: Utility FILE SEGMENT: Granted

PRIMARY EXAMINER: Prouty, Rebecca E.

LEGAL REPRESENTATIVE: Oblon, Spivak, McClelland, Maier & Neustadt, P.C.

NUMBER OF CLAIMS: 18 EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 42 Drawing Figure(s); 43 Drawing Page(s)

LINE COUNT: 6161

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A method for isolating a gene, comprising:

- (i) isolating a cell possessing a post-translational characteristic of interest, said post-translational characteristic being the presence of a membrane-bound oligosaccharide or polysaccharide of interest on the surface of said cell, the presence of a soluble oligosaccharide or polysaccharide of interest in an extract of said cell, or the presence of a particularly glycosyltransferase activity in an extract of said cell;
- (ii) creating a genetic library of either cDNA or genomic DNA from the genetic material of said isolated cell;
- (iii) transforming host cells with said genetic library; and
- (iv) screening said transformed host cells for a host cell containing said post-translational characteristic, thereby obtaining a cell containing said gene, is disclosed. The method can be used to obtain genes encoding glycosyltransferases.

# CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8 ANSWER 15 OF 18 BIOTECHNO COPYRIGHT 2008 Elsevier Science B.V. on STN DUPLICATE

ACCESSION NUMBER: 1999:29190398 BIOTECHNO << LOGINID::20080122>>

TITLE: Stable expression of human .beta.1,4-

galactosyltransferase in plant cells modifies N-linked

glycosylation patterns

AUTHOR: Palacpac N.Q.; Yoshida S.; Sakai H.; Kimura Y.;

Fujiyama K.; Yoshida T.; Seki T.

CORPORATE SOURCE: K. Fujiyama, International Ctr. for Biotechnology,

Osaka University, Yamada-oka 2-1, Suita-shi, Osaka

565, Japan.

E-mail: fujiyama@icb.osaka-u.ac.jp

SOURCE:

Proceedings of the National Academy of Sciences of the

United States of America, (13 APR 1999), 96/8

(4692-4697), 40 reference(s)

**CODEN: PNASA6 ISSN: 0027-8424** 

DOCUMENT TYPE: Journal; Article

COUNTRY:

United States

LANGUAGE:

English

SUMMARY LANGUAGE: English

AN 1999:29190398 BIOTECHNO <<LOGINID::20080122>>

AB .beta.1,4-Galactosyltransferase (UDP galactose: .beta.-N-acetylglucosaminide: .beta.1,4-galactosyltransferase; EC 2.4.1.22) catalyzes the transfer of galactose from UDP-Gal to N-acetylglucosamine in the penultimate stages of the terminal glycosylation of N-linked complex oligosaccharides in mammalian cells. Tobacco BY2 cells lack this Golgi enzyme. To determine to what extent the production of a mammalian

\*\*\*glycosyltransferase\*\*\* can alter the glycosylation pathway of plant cells, tobacco BY2 suspension-cultured cells were stably

\*\*\* transformed\*\*\* with the full-length human galactosyltransferase gene placed under the control of the cauliflower mosaic virus 35S promoter.

The expression was confirmed by assaying enzymatic activity as well as by Southern and Western blotting. The \*\*\*transformant\*\*\* with the highest level of enzymatic activity has \*\*\*glycans\*\*\* with galactose residues at the terminal nonreducing ends, indicating the successful modification of the plant cell N- glycosylation pathway. Analysis of the

\*\*\*oligosaccharide\*\*\* structures shows that the galactosylated N\*\*\*glycans\*\*\* account for 47.3% of the total sugar chains. In addition,
the absence of the dominant xylosidated- and fucosylated-type sugar
chains confirms that the \*\*\*transformed\*\*\* cells can be used to
produce glycoproteins without the highly immunogenic \*\*\*glycans\*\*\*
typically found in plants. These results demonstrate the synthesis in
plants of N-linked \*\*\*glycans\*\*\* with modified and defined sugar

chain structures similar to mammalian glycoproteins.

# L8 ANSWER 16 OF 18 USPATFULL on STN

ACCESSION NUMBER: 1998:72452 USPATFULL << LOGINID::20080122>>

TITLE:

Methods and products for the synthesis of oligosaccharide structures on glycoproteins, glycolipids, or as free molecules, and for the isolation of cloned genetic sequences that determine these structures

INVENTOR(S): Lowe, John B., Ann Arbor, MI, United States Legault, Daniel J., Ann Arbor, MI, United States

PATENT ASSIGNEE(S): The Regents of the University of Michigan, Ann Arbor, MI, United States (U.S. corporation)

# NUMBER KIND DATE

PATENT INFORMATION: US 5770420 19980623 APPLICATION INFO.: US 1995-525058 19950908 (8)

DOCUMENT TYPE: Utility

FILE SEGMENT: Granted

PRIMARY EXAMINER: Wax, Robert A. ASSISTANT EXAMINER: Hobbs, Lisa J.

LEGAL REPRESENTATIVE: Oblon, Spivak, McClelland, Maier & Neustadt, P.C.

NUMBER OF CLAIMS: 26 EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 38 Drawing Figure(s); 38 Drawing Page(s)

LINE COUNT: 7237

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A method for isolating a gene, comprising:

(i) isolating a cell possessing a post-translational characteristic of interest, said post-translational characteristic being the presence of a membrane-bound oligosaccharide or polysaccharide of interest on the surface of said cell, the presence of a soluble oligosaccharide or

polysaccharide of interest in an extract of said cell, or the presence of a particularly glycosyltransferase activity in an extract of said cell:

- (ii) creating a genetic library of either cDNA or genomic DNA from the genetic material of said isolated cell;
- (iii) transforming host cells with said genetic library; and
- (iv) screening said transformed host cells for a host cell containing said post-translational characteristic, thereby obtaining a cell containing said gene, is disclosed. The method can be used to obtain genes encoding glycosyltransferases.

#### CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8 ANSWER 17 OF 18 USPATFULL on STN

ACCESSION NUMBER: 97:5881 USPATFULL << LOGINID::20080122>>

TITLE:

Methods and products for the synthesis of oligosaccharide structures on glycoproteins, glycolipids, or as free molecules, and for the isolation of cloned genetic sequences that determine these structures

INVENTOR(S): Lowe, John B., Ann Arbor, MI, United States
PATENT ASSIGNEE(S): The Regents of the University of Michigan, Ann Arbor,
MI, United States (U.S. corporation)

# NUMBER KIND DATE

PATENT INFORMATION: US 5595900 19970121 APPLICATION INFO.: US 1995-393246 19950223 (8)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1994-220433, filed on 30

Mar 1994, now abandoned which is a division of Ser. No. US 1992-914281, filed on 20 Jul 1992, now patented, Pat. No. US 5324663 which is a continuation-in-part of Ser. No. US 1991-715900, filed on 19 Jun 1991, now abandoned which is a continuation-in-part of Ser. No. US 1990-627621, filed on 12 Dec 1990, now abandoned which is a continuation-in-part of Ser. No. US 1990-479858, filed on 14 Feb 1990, now abandoned

DOCUMENT TYPE: Utility

FILE SEGMENT: Granted

PRIMARY EXAMINER: Wax, Robert A. ASSISTANT EXAMINER: Prouty, Rebecca

LEGAL REPRESENTATIVE: Oblon, Spivak, McClelland, Maier & Neustadt, P.C.

NUMBER OF CLAIMS: 2 EXEMPLARY CLAIM: 2

NUMBER OF DRAWINGS: 43 Drawing Figure(s); 43 Drawing Page(s)

LINE COUNT: 5781

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A method for isolating a gene, comprising:

- (i) isolating a cell possessing a post-translational characteristic of interest, said post-translational characteristic being the presence of a membrane-bound oligosaccharide or polysaccharide of interest on the surface of said cell, the presence of a soluble oligosaccharide or polysaccharide of interest in an extract of said cell, or the presence of a particularly glycosyltransferase activity in an extract of said cell:
- (ii) creating a genetic library of either cDNA or genomic DNA from the genetic material of said isolated cell;
- (iii) transforming host cells with said genetic library; and
- (iv) screening said transformed host cells for a host cell containing said post-translational characteristic, thereby obtaining a cell containing said gene, is disclosed. The method can be used to obtain genes encoding glycosyltransferases.

#### CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8 ANSWER 18 OF 18 USPATFULL on STN

ACCESSION NUMBER: 94:55482 USPATFULL << LOGINID::20080122>>

TITLE:

Methods and products for the synthesis of oligosaccharide structures on glycoproteins, glycolipids, or as free molecules, and for the isolation of cloned genetic sequences that determine

these structures

INVENTOR(S): Lowe, John B., Ann Arbor, MI, United States
PATENT ASSIGNEE(S): The Regents of the University of Michigan, Ann Arbor,
MI, United States (U.S. corporation)

### NUMBER KIND DATE

PATENT INFORMATION: US 5324663 19940628

APPLICATION INFO.: US 1992-914281 19920720 (7)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1991-715900, filed

on 19 Jun 1991, now abandoned which is a continuation-in-part of Ser. No. US 1990-627621, filed on 12 Dec 1990, now abandoned which is a continuation-in-part of Ser. No. US 1990-479858, filed on 14 Feb 1990, now abandoned

DOCUMENT TYPE: Utility FILE SEGMENT: Granted

PRIMARY EXAMINER: Wax, Robert A.
ASSISTANT EXAMINER: Prouty, Rebecca

LEGAL REPRESENTATIVE: Oblon, Spivak, McClelland, Maier & Neustadt

NUMBER OF CLAIMS: 11 EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 43 Drawing Figure(s); 43 Drawing Page(s)

LINE COUNT:

5605

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A method for isolating a gene, comprising:

- (i) isolating a cell possessing a post-translational characteristic of interest, said post-translational characteristic being the presence of a membrane-bound oligosaccharide or polysaccharide of interest on the surface of said cell, the presence of a soluble oligosaccharide or polysaccharide of interest in an extract of said cell, or the presence of a particularly glycosyltransferase activity in an extract of said cell:
- (ii) creating a genetic library of either cDNA or genomic DNA from the genetic material of said isolated cell;
- (iii) transforming host cells with said genetic library; and
- (iv) screening said transformed host cells for a host cell containing said post-translational characteristic, thereby obtaining a cell containing said gene, is disclosed. The method can be used to obtain genes encoding glycosyltransferases.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> d his

L1 QUE (GLYCOSYLTRANSFERASE OR (OLIGOSACCHAR? (W) TRANSFERASE))

FILE 'EMBASE, CAPLUS, BIOSIS, SCISEARCH, BIOTECHNO, USPATFULL, MEDLINE, ESBIOBASE, PASCAL, TOXCENTER, LIFESCI, WPIDS' ENTERED AT 10:41:49 ON 22 JAN 2008

- L2 27931 S L1
- L3 881 S (ORGANISM OR PROKARYOT? OR TRANSFORM?)(S) L2
- L4 92 S OLIGOSACCHARIDE (S) L3
- L5 0 S (GLYCANES OR N-GLYCANES) AND L4
- L6 0 S GLYCANE? AND L4

L7 L8

20 S GLYCAN? AND L4 18 DUP REM L7 (2 DUPLICATES REMOVED)

=> log y